Arizona Department of Environmental Quality
Underground Storage Tank Section
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Phoenix, AZ 85012

INTERSTITIAL MONITORING

...a lesson in LEAK DETECTION

What is it?

3 Interstitial monitoring detects leaks in the space between the tank and/or piping and a second barrier. This method of leak detection applies only if the tank and/or piping is double-walled or is secondarily contained.

Will you be in compliance?

3 When installed and operated according to the manufacturer's specifications, secondary containment with interstitial monitoring meets Arizona's leak detection requirements for new and existing UST systems.

3 Operation of the monitoring device continuously or at least once each month fulfills the requirements for the life of the tank.

3 Interstitial monitoring can also be used to detect leaks from piping.

Will it work at your site?

3 In areas with high groundwater or a lot of rainfall, it may be necessary to select a secondary containment system that completely surrounds the UST system to prevent moisture from interfering with the monitors.

What are the regulatory requirements?

3 The barrier must be immediately around or beneath the tank.

3 The interstitial space must be checked at least once every month.

3 A release from the inner wall must be detectable in a double walled system.

3 An excavation liner must:

- # Direct a leak toward the monitors.
- # Not allow the specific product being stored to pass through it any faster than 0.000001 cm/sec.
- # Be compatible with the product stored in the tank.
- # Not interfere with the UST system's cathodic protection.

How Does the Interstitial Monitoring Method Work ?

SECONDARY CONTAINMENT

- Secondary containment provides a barrier between the tank and/or product line and the environment. The barrier is shaped so that a leak will flow towards the interstitial monitor.

- Barriers include:
  a. Double-walled or "jacketed" tanks, in which an outer wall partially or completely surrounds the primary tank.
  b. Internally fitted liners ("bladders").
  c. Leak proof excavation liners that partially or completely surround the tank.

- Clay and other earthen materials **CAN NOT** be used as barriers.

INTERSTITIAL MONITORS

- Monitors are used to check the area between the tank and/or piping and the barrier for leaks and alert the operator if a leak is suspected.

- Some monitors indicate the physical presence of the leaked product, either liquid or gaseous. Other monitors check for a change in condition that indicates a hole in the tank, such as a vacuum loss or a monitoring liquid level change between the walls of a double-walled tank.

- Monitors can be as simple as a dipstick used at the lowest point of the containment to see if liquid product has leaked and pooled there. Monitors can also be sophisticated automated systems that continuously check for leaks.

- If the monthly report from the monitoring device reads **fail**, then report a SUSPECTED RELEASE within 24 hours to the LUST Hotline @ 602-207-4303. However, if you have reason to believe the monitoring device is defective then immediately repair, recalibrate or replace the defective equipment and perform an additional test that reads **pass**, then no SUSPECTED RELEASE report is needed.

Maintenance

- Monitors must be maintained, calibrated, operated, and tested for operability per manufacturer' s instructions. In addition, the monitoring alarm must alert the attendant of the facility, such that if a release should occur, appropriate actions may be taken.

Required Documentation

- Keep all records of maintenance, calibrations and testing for review by ADEQ inspectors.

In the event of any discrepancy between this document and the Arizona Revised Statutes or Rules, the statutes or rules shall prevail.